

REMARKS

Claims 1, 2 and 4-21 are presently pending in the subject application. Claims 1, 2 and 4-21 have been examined, and claims 101-135 have been withdrawn from consideration as not having been originally presented. Claims 1, 2, 4-14 and 16-21 stand rejected, and claim 15 is objected to. By the above amendments, claim 15 has been amended, and claims 101-135 have been canceled without any prejudice or disclaimer of the subject matter thereof. Applicant expressly reserves the right to file divisional and/or continuation applications with respect to the subject matter of claims 101-135. Favorable reconsideration of the application and allowance of all of the pending claims are respectfully requested in view of the above amendments and the following remarks.

The specification and claim 15 are objected to because of the misspelling of “terephthalate” and “isophthalic”. The specification and claim 15 have accordingly been amended to correct these informalities, and the Examiner is requested to withdraw these objections.

Claims 1, 2, 4, 7-9, 17 and 19-21 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 5,759,926 to Pike et al. (“Pike”) and optionally as evidence, for example, by U.S. Patent No. 5,753,351 to Yoshida et al. (“Yoshida”) or U.S. Patent No. 5,814,569 to Suzuki et al. (“Suzuki”). Claims 1, 2, 4-9, 12-14 and 16-21 further stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Pike in view of U.S. Patent No. 5,790,926 to Mizoe et al. (“Mizoe”). Claims 10 and 11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Pike alone or Pike in view of Mizoe, and further in view of U.S. Patent No. 5,277,976 to Hogle et al. (“Hogle”) or U.S. Patent No. 5,985,193 to Harrington et al. (“Harrington”).

Claim 15 is objected to as being dependent upon a rejected base claim. Applicant acknowledges and appreciates the Examiner’s indication that claim 15 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The rejections of the remaining claims are traversed based upon the following remarks.

Regarding the rejections to claims 1, 2, 4, 7-9, 17 and 19-21 as being anticipated by Pike, it is noted that the rejections of the present Office Action and the previous Office Action (Paper #12) are essentially the same and include the same rationale. In essence, the Examiner asserts

that, since Pike discloses splitting fibers with steam or heated water and using incompatible polymer combinations such as polypropylene / polyethylene terephthalate, Pike inherently discloses the combined features of claim 1, including the feature of applying heat to the web to cause separation between segments of the plural-component fibers comprising the first material and segments of the plural-component fibers comprising the second material due to differential heat shrinkage of the first and second materials. Applicant respectfully disagrees with this assertion, and the arguments submitted in the previous Amendment (filed January 21, 2003) are incorporated herein by reference with respect to the present rejection of the claims based upon Pike. In addition, the claims should be allowed over Pike based upon the following additional remarks.

The Examiner asserts that a polypropylene / polyethylene terephthalate combination as disclosed in Pike is expected to have characteristics which closely resemble a polypropylene / polyethylene terephthalate modified with isophthalic acid as disclosed in the subject application, and that it is reasonable to expect a polypropylene / polyethylene terephthalate combination would/should have at least a relative difference in heat shrinkage of at least about ten percent when subjected to heat as recited in claim 1. In addition, the Examiner cites *In re Best*, 195 USPQ 430, 433-34 (CCPA 1977), and indicates that, where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of the claimed product. Thus, it appears as though the Examiner is suggesting that evidence from Applicant should be provided as to whether a polypropylene / polyethylene terephthalate combination as disclosed in Pike is in fact substantially similar to a polypropylene / modified polyethylene terephthalate combination as disclosed in the subject application.

Initially, it is noted that Pike clearly sets forth in its examples that heat alone will not cause the conjugate fiber combinations to split. While a polypropylene / polyethylene terephthalate fiber combination is not specifically described in the examples of Pike, Pike does indicate (see Comparative Example 5 at Col. 14, lines 65-67) that "applying heat alone does not cause the fibers to split." Pike further indicates (see Example 13 at Col. 15, lines 34-36) that "the combination of heat and moisture is necessary for the present conjugate fiber splitting process." Since Pike indicates that heat alone is insufficient to split the conjugate fiber

combinations contemplated by Pike, it is unreasonable to assume that a polypropylene / polyethylene terephthalate fiber combination as disclosed in Pike is identical or substantially identical to (i.e., will closely resemble) a polypropylene / polyethylene terephthalate modified with isophthalic acid combination as disclosed in the subject application and that the polypropylene / polyethylene terephthalate combination should have a difference in heat shrinkage of at least about 10%.

However, in accordance with the Examiner's apparent suggestion for the submission of evidence, Applicant submits herewith as evidence a Declaration under 37 C.F.R. §1.132 in support of the traversal of the rejection of claim 1 as being anticipated by Pike. In particular, a Declaration by Jeffrey S. Haggard, one of the inventors of the subject application, sets forth evidence of tests conducted with different bicomponent fiber combinations to determine heat shrinkage differences between the polymer components of the fibers and whether each bicomponent fiber split when subjected to heat in-line with fiber extrusion. As the evidence shows, a polypropylene / polyethylene terephthalate (unmodified) fiber combination of the test had a difference in heat shrinkage of less than 10% and further did not split when subjected to heat. In contrast, a polypropylene / polyethylene terephthalate modified with isophthalic acid fiber combination of the test had a difference in heat shrinkage of greater than 10% and did in fact split when subjected to heat. The test evidence further shows other bicomponent fiber combinations (i.e., polypropylene / thermoplastic polyurethane and polypropylene / PEBA^X) that also have a difference in heat shrinkage of at least 10% and that split when subjected to heat.

Thus, the test evidence set forth in the Declaration of Jeffrey S. Haggard clearly contradicts the Examiner's assertion that a polypropylene / polyethylene terephthalate fiber combination inherently has a difference in heat shrinkage of at least about 10% so as to split when exposed to heat as a result of the difference in heat shrinkage between the fiber components (i.e., rather than a difference in solubility parameter when exposed to heat combined with moisture as described in Pike). Furthermore, there is no disclosure or suggestion in Pike of any incompatible polymer fiber combination that yields a fiber that is splittable in-line with fiber extrusion when subjected to heat as a result of the fiber components having a difference in heat shrinkage as recited in claim 1. Therefore, based upon the above remarks and the supporting Declaration of Jeffrey S. Haggard, claim 1 is not anticipated by Pike, and the Examiner is respectfully requested to withdraw the rejection of claim 1, as well as dependent claims 2, 4, 7-9,

17 and 19-21, as being anticipated by Pike. In addition, the Examiner is requested to withdraw the rejection of claims 10 and 11 as being obvious based upon Pike in view of Hogle or Harrington.

Claim 1 is also rejected as being obvious based upon Pike in view of Mizoe. The Examiner is maintaining the same rejection and applying the same rationale as set forth in the previous Office Action. In combining these two references, the Examiner asserts that an incentive exists for modifying the process of Pike based upon Mizoe, namely, “to obtain the expected advantage of simplifying a production process and reducing a production cost (*i.e.* obviate the need to modify polymers to make them hydrophilic, and obviate the need to dry a wet fiber web)” (see pages 6-7 of the present Office Action, underlined emphasis in the Office Action). Applicant respectfully disagrees with this assertion, and the claims should be allowed over Pike in view of Mizoe based upon the arguments submitted in the previous Office Action, incorporated herein by reference, as well as the following remarks.

As noted in the previous Amendment, modifying Pike based upon Mizoe in the way the Examiner suggests would in essence teach away from the disclosure of Pike by changing the intended mode of operation of Pike. Section 2143.01 of the MPEP (Rev. 1, Feb. 2003, page 2100-127) sets forth that, if a proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious.

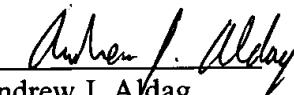
The motivations cited by the Examiner for combining Pike with Mizoe are obviating the need to modify polymers to make them hydrophilic, and obviating the need to use wet heat such as steam or boiling water. However, Pike clearly requires that at least one of the incompatible component polymers is hydrophilic or hydrophilically modified (see, e.g., Col. 3, lines 24-27 and Col. 6, lines 31-34 of Pike). Pike further requires a hot aqueous medium to split the fibers (see, e.g., Col. 8, lines 33-46 and Col. 15, lines 34-36 of Pike). In other words, the principle of operation in Pike clearly relies on the hydrophilicity of at least one of the incompatible component polymers and the use of a combination of heat and moisture to effect splitting of the fibers. Modifications to Pike based upon the motivations provided by the Examiner would clearly change the principle of operation of Pike. Therefore, the Examiner has not met the burden of establishing *prima facie* obviousness with respect to the rejection of claim 1 based upon Pike in view of Mizoe.

In addition, Applicant submits herewith as evidence a Declaration under 37 C.F.R. §1.132 in support of the traversal of the rejection of claim 1 as being obvious based upon the combination of Pike and Mizoe. This Declaration sets forth the opinion of W. John G. McCulloch, who has extensive experience in the nonwoven fiber production industry and is well aware of the level of ordinary skill in the art in this industry. As set forth in this Declaration, it is Mr. McCulloch's opinion that persons having ordinary skill in the nonwoven fiber production art would recognize that no combination of the methods described in Pike and Mizoe would render obvious the in-line splitting method as described and claimed in the subject application. Therefore, claim 1, as well as dependent claims 2, 4-9, 12-14 and 16-21, are considered allowable over Pike in view of Mizoe and the Examiner is requested to withdraw the rejections to these claims based upon the combination of these references. In addition, the Examiner is requested to withdraw the rejections to claims 10 and 11 based upon Pike in view of Mizoe and further in view of Hogle or Harrington.

In view of the foregoing, Applicant respectfully requests the Examiner to find the application to be in condition for allowance with claims 1, 2 and 4-21. However, if for any reason the Examiner feels that the application is not now in condition for allowance, the Examiner is respectfully requested to call the undersigned attorney to discuss any unresolved issues and to expedite the disposition of the application.

Applicant hereby petitions for any extension of time that may be required to maintain the pendency of this case, and any required fee for such extension is to be charged to Deposit Account No. 05-0460.

Respectfully submitted,


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